



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area  
**IRON SHORING**  
Machine Id  
**100-028**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 32 (--- GAL)**

### RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0286937</b>	LH0216074	---
Sample Date		Client Info		<b>03 Apr 2024</b>	20 Nov 2021	---
Machine Age	hrs	Client Info		<b>0</b>	558	---
Oil Age	hrs	Client Info		<b>0</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Not Changed	---
Filter Changed		Client Info		<b>N/A</b>	N/A	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	---
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	---
Copper	ppm	ASTM D5185(m)	>75	<b>6</b>	4	---
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

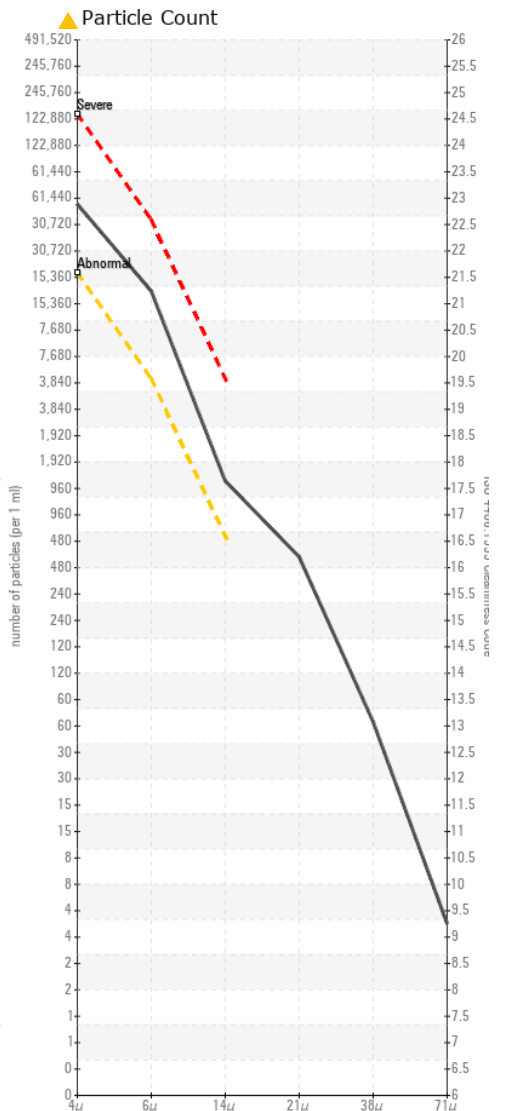
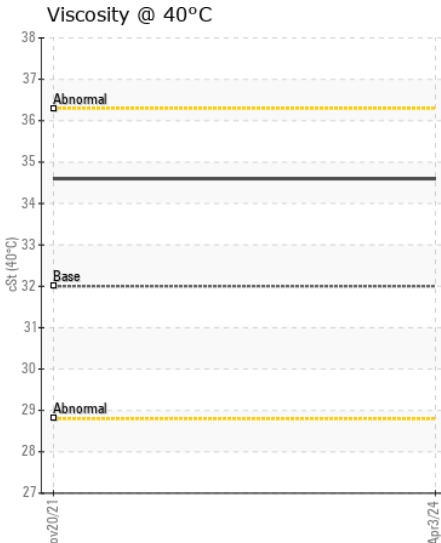
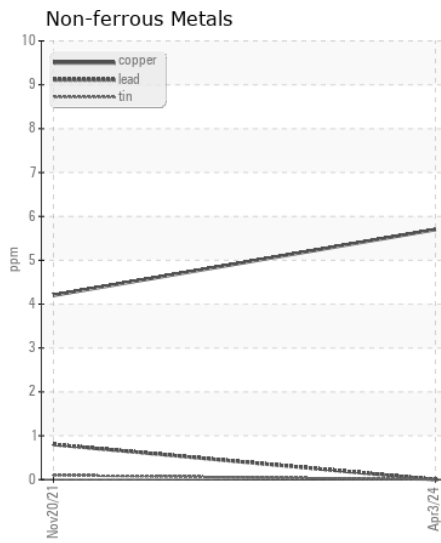
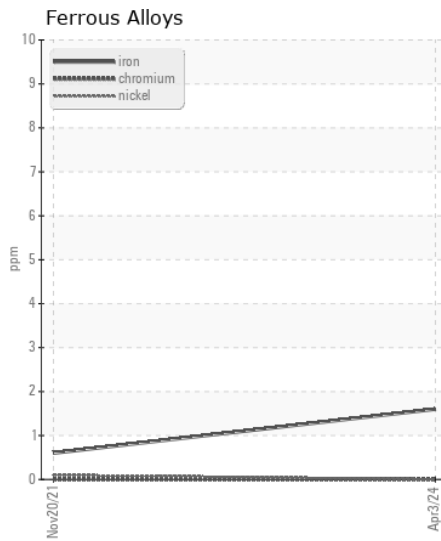
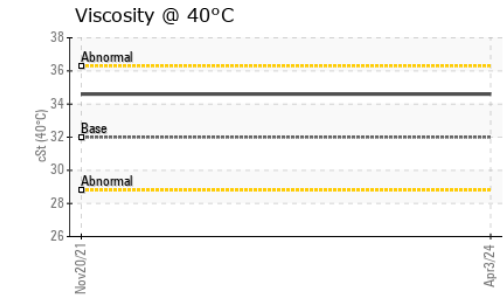
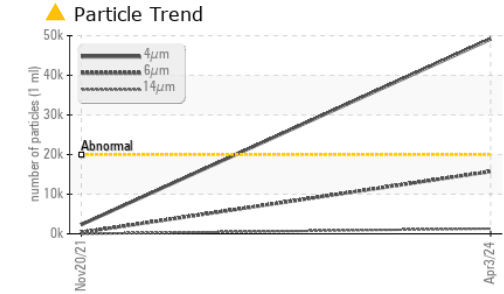
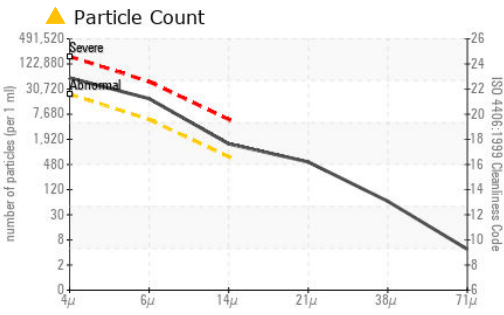
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	<b>1</b>	2	---
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>20000	<b>▲ 49161</b>	2309	---
Particles >6µm		ASTM D7647	>5000	<b>▲ 15729</b>	341	---
Particles >14µm		ASTM D7647	>640	<b>▲ 1311</b>	7	---
Particles >21µm		ASTM D7647	>160	<b>▲ 485</b>	3	---
Particles >38µm		ASTM D7647	>40	<b>56</b>	0	---
Particles >71µm		ASTM D7647	>10	<b>4</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>▲ 23/21/18</b>	18/16/10	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	---
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</b>	NONE	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	---

### FLUID CONDITION

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	---
Boron	ppm	ASTM D5185(m)	5	<b>&lt;1</b>	<1	---
Barium	ppm	ASTM D5185(m)	5	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185(m)	5	<b>0</b>	0	---
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	---
Magnesium	ppm	ASTM D5185(m)	25	<b>5</b>	4	---
Calcium	ppm	ASTM D5185(m)	200	<b>73</b>	72	---
Phosphorus	ppm	ASTM D5185(m)	300	<b>266</b>	292	---
Zinc	ppm	ASTM D5185(m)	370	<b>334</b>	343	---
Sulfur	ppm	ASTM D5185(m)	2500	<b>1728</b>	1754	---
Visc @ 40°C	cSt	ASTM D7279(m)	32	<b>34.6</b>	34.6	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0286937  
**Lab Number** : 02626659  
**Unique Number** : 5759791  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

**RONI/IRON SHORE EXCAVATING LTD.**  
 100 MACINTOSH BLVD  
 VAUGHAN, ON  
 CA L4K 4P3  
 Contact: Nathan Fernandes  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.